

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 6340

Port of Hongkong Date of First Survey Sept. 3rd 1928 Date of Last Survey Oct. 3rd 1928 No. of Visits 8  
 No. in on the Iron or Steel Twin Sc. Steamer "VIOLET" Port belonging to Penang  
 Reg. Book 87565 Built at Hongkong By whom H'kong & W'poa Dock Co. Ltd. When built 1928  
 Owners Federated Malay States Railway Owners' Address Penang  
 Yard No. 651 Electric Light Installation fitted by Hongkong & W'poa Dock Co. Ltd. When fitted 1928

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 4 K.W. multipole dynamo, direct coupled to a single cylinder enclosed type steam engine, running at 400 R.P.M. ✓

Capacity of Dynamo 37 Amperes at 110 Volts, whether continuous or alternating current continuous ✓

Where is Dynamo fixed Engine room bottom platform Whether single or double wire system is used double ✓

Position of Main Switch Board beside dynamo <sup>Port side</sup> having switches to groups A, B, & C ✓ of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each none ✓

If fuses are fitted on main switch board to the cables of main circuit yes ✓ and on each auxiliary switch board to the cables of auxiliary circuits yes ✓ and at each position where a cable is branched or reduced in size yes ✓ and to each lamp circuit yes ✓

If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes ✓

Are the fuses of non-oxidizable metal yes ✓ and constructed to fuse at an excess of 66 per cent over the normal current

Are all fuses fitted in easily accessible positions yes ✓ Are the fuses of standard dimensions yes ✓ If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit yes ✓

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes ✓

Total number of lights provided for 112 arranged in the following groups:—

A	<u>33</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>6.6</u>	Amperes
B	<u>30</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>6</u>	Amperes
C	<u>45</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>9</u>	Amperes
D		lights each of		candle power requiring a total current of		Amperes
E		lights each of		candle power requiring a total current of		Amperes
<u>1</u>	Mast head light with	<u>1</u> lamps each of	<u>48</u>	candle power requiring a total current of	<u>1.6</u>	Amperes
<u>2</u>	Side light with	<u>1</u> lamps each of	<u>48</u>	candle power requiring a total current of	<u>1.2</u>	Amperes
<u>1</u>	Cargo lights of		<u>80</u>	candle power, whether incandescent or arc lights	<u>incandescent</u>	

If arc lights, what protection is provided against fire, sparks, &c. ✓

Where are the switches controlling the masthead and side lights placed on bridge

## DESCRIPTION OF CABLES.

Main cable carrying 24 Amperes, comprised of 19 wires, each .044 S.W.G. diameter, .03 square inches total sectional area

Branch cables carrying 6.6 } Amperes, comprised of 7 wires, each .044 S.W.G. diameter, .01 square inches total sectional area

Branch cables carrying 9 } Amperes, comprised of \_\_\_\_\_ wires, each \_\_\_\_\_ S.W.G. diameter, \_\_\_\_\_ square inches total sectional area

Leads to lamps carrying \_\_\_\_\_ Amperes, comprised of \_\_\_\_\_ wires, each \_\_\_\_\_ S.W.G. diameter, \_\_\_\_\_ square inches total sectional area

Cargo light cables carrying 1 Amperes, comprised of 16 wires, each .0076 S.W.G. diameter, .0015 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

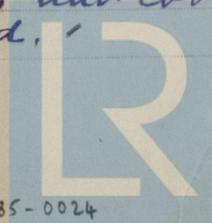
Cables insulated with pure para rubber, two coats vulcanising rubber taped and vulcanized together, in protected places they are lead covered and in unprotected places lead covered and armoured. ✓

Joints in cables, how made, insulated, and protected In junction boxes. ✓

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances yes ✓ Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage yes ✓

Are there any joints in or branches from the cable leading from dynamo to main switch board no ✓

How are the cables led through the ship, and how protected Cables led under decks, lead covered and armoured where required. ✓



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**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible *Yes*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered and armoured.*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead covered and armoured.*

What special protection has been provided for the cables near boiler casings *Lead covered and armoured.*

What special protection has been provided for the cables in engine room *Lead covered and armoured.*

How are cables carried through beams *in lead bushes* through bulkheads, &c. *W.T. glands.*

How are cables carried through decks *Galvanized deck tubes with brass glands.*

Are any cables run through coal bunkers *no* or cargo spaces *no* or spaces which may be used for carrying cargo, stores, or baggage *no*

If so, how are they protected *✓*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *no*

If so, how are the lamp fittings and cable terminals specially protected *✓*

Where are the main switches and fuses for these lights fitted *✓*

If in the spaces, how are they specially protected *✓*

Are any switches or fuses fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable* How fixed *✓*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *✓*

How are the returns from the lamps connected to the hull *✓*

Are all the joints with the hull in accessible positions *✓*

Is the installation supplied with a voltmeter *yes*, and with an amperemeter *yes*, fixed *Switchboard*

**VESSELS BUILT FOR CARRYING PETROLEUM.**

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas *✓*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *✓*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *✓*

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

Electrical Engineers Date *R.M. Dyer*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *no standard compass.*

Distance between dynamo or electric motors and steering compass *60 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>2.4</i>	Ampere	<i>✓</i>	feet from standard compass	<i>15</i>	feet from steering compass
A cable carrying	<i>.2</i>	Ampere	<i>✓</i>	feet from standard compass	<i>5</i>	feet from steering compass
A cable carrying	<i>✓</i>	Ampere	<i>✓</i>	feet from standard compass	<i>✓</i>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power *yes*

The maximum deviation due to electric currents, etc., was found to be *✓* degrees on *✓* course in the case of the standard compass and *nil* degrees on *✓* course in the case of the steering compass.

Builder's Signature. Date *R.M. Dyer*

**GENERAL REMARKS.**

*No wireless fitted.*  
*Installation tested on October 3rd 1928 with satisfactory results.*

*It is submitted that this vessel is eligible for THE RECORD. Elec. Light*

*R. Morrison*  
Surveyor to Lloyd's Register of Shipping.

Committee's Minute **FRI 30 NOV 1928**

*Elec Light*



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